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24 July 2006

RE: Comments on Notice of Intent to Prepare an EIS for Proposed Cape Wind Project, 71 FR 30693.

Dear Dr. Cluck,

I wish to submit the following comment on the Scoping for the Cape Wind Environmental Impact Statement (EIS) on behalf of the more than nine million members and constituents of The Humane Society of the United States (The HSUS). The HSUS appreciates that the Mineral Management Service (MMS) is requiring a new EIS of the Cape Wind project. Clearly a new EIS is necessary. Our comments to the Army Corps of Engineers on the Initial DEIS for Cape Wind pointed out the gross deficits in both the baseline information provided on wildlife use and habitat concerns for the project area and the consequent inadequacy of the risk assessment and mitigation measures. All of the deficiencies cited in our comments should be remedied in any future EIS for the project. Furthermore, critical comments on the initial DEIS were submitted by a number of federal and state agencies including the U.S. Interior Department, the U.S. Environmental Protection Agency, the Commonwealth of Massachusetts Division of Marine Fisheries, and the Commonwealth of Massachusetts Natural Heritage Program, just to name a few. We hope that the MMS will also consider the comments of these agencies on the initial DEIS to assist you in defining the scope of this new EIS.

The Federal Register Notice states that the MMS is seeking specific comments on significant issues, potential alternatives and mitigating measures, as well as the need for additional information. Our comments will be structured around each of these areas.

Significant Issues

The project should not proceed until and unless it can be reliably determined that it will not pose a threat to marine wildlife. Threats to wildlife and their habitat could occur during construction, operation and decommissioning. Impacts for the various taxa should include an analysis of impacts at each of these three phases of the project.

A thorough analysis should be undertaken for any of the alternatives evaluated, but particularly for Nantucket Sound as the preferred alternative. We will address significant issues for several key wildlife taxons.

Impacts on Fish

The applicant's preferred site in Nantucket Sound contains essential fish habitat for over a dozen species. The EIS should evaluate what impact temporary and/or permanent displacement of animals may have on their foraging, sheltering and reproduction during construction. Habitat loss or displacement during construction may result from noise, increased turbidity, destruction of eel grass or other important habitat features for varying life stages.

The coastal areas of southern New England are largely sandy bottom which is highly mobile in nature. The EIS should evaluate potential effects of changes to the suitability of benthic habitat that will result from altering patterns of sand deposition and consequent scour and deposition of sand around turbines in this highly mobile system.

Because the turbine bases will form artificial reefs, the EIS should evaluate impacts of installing reefs in an otherwise sandy bottom ecotype. Artificial reefs will provide a type of habitat not previously available. The EIS should evaluate the shift from non-structure to structure-based systems. This new habitat may have beneficial impacts, but may also result in detrimental changes to floral and faunal communities that affect cross-trophic predator-prey relationships.

Electrical cables taking power to land, and operating turbines themselves, generate electromagnetic fields (EMF) that may affect species such as elasmobranchs that are sensitive to EMF. The impacts of this too should be evaluated.

Impacts on Marine Turtles

Several species of marine turtles use the coastal areas of New England at least seasonally and all of them are listed species under the U.S. Endangered Species Act. While there is little directed survey effort to detect turtles, stranding data bases and other literature exist that document their presence. Analyses should consider the sighting per unit effort when considering and quantifying risk to animals in the area. As with fish, the EIS must analyze the impact of construction noise and suspended sediments on turtles, as well as the low-level EMF during operation that may affect their ability to navigate.

The EIS should also consider risk of collision with boats traversing to and from the wind energy facility, particularly during construction.

Impacts on Marine Mammals

Nantucket Sound is in the seasonal range of migratory marine mammals, including harbor porpoise and critically endangered North Atlantic right whales. The topic of acoustic impacts on large cetaceans was not adequately addressed in the initial DEIS

undertaken for the Army Corps of Engineers. Reliable studies of Horns Rev and Nysted wind energy facilities in Denmark, have documented impacts to harbor porpoise and various seals (primarily harbor seals) that are minimal to non-existent during operation. However these studies documented considerable displacement and behavioral alteration during construction, particularly for harbor porpoise. No studies exist on the impacts of construction and operational noise on large cetaceans such as the right whales and humpback whales that use and traverse the project area. Attention should be paid to the most sensitive hearing ranges for mysticete whales. These species are generally more sensitive to the lower frequency sounds in the range of those likely to be continually generated during operation. We particularly urge the MMS to consult with Peter Tyack of Wood Hole Oceanographic Institution and other experts in marine mammal hearing and acoustics. The EIS should also take advantage of studies and modeling undertaken for other marine wind energy facilities including Denmark, the Burbo wind farm in the U.K. and elsewhere.

While it may seem self-evident, the EIS should thoroughly review all relevant data bases and literature on marine mammal distribution and habitat use. This was not done in the original DEIS. Because there are few if any systematic surveys of this area, other than those in known high use habitats by right whales, it is important that various extant data bases be queried which were not queried in the original DEIS for Cape Wind. We noted in our comments on the initial DEIS that information cited on marine mammal habitat use was frequently outdated and incomplete. As examples, the data base maintained by the Cape Cod Stranding Network was not consulted, nor was the Sightings Advisory System data base maintained by the National Marine Fisheries Service (NMFS) and, similarly, the data base of the NMFS relating to bycatch of marine mammals and turtles in gillnets and other fishing gear was overlooked but could be used to better understand distribution and habitat use. Telemetry studies on right whales by Baumgartner (Baumgartner 2005) also indicate use of this area by right whales. The EIS should include consideration of this study as well as other telemetry studies of right whales and other species.

A variety of sources of risk to marine mammals should be evaluated. The EIS should evaluate potential habitat degradation resulting from suspended sediments and noise levels generated during construction both from pile driving and the joining of pieces of structure. These impacts bear on the risk of displacement from migratory routes or seasonal residence. Displacement during construction may result in exposing vulnerable species to additional risk of entanglement or vessel strike if they alter their migratory routes. The risk will also be exacerbated or minimized depending on the duration of construction and/or the seasons during which construction takes place. The EIS should highlight the seasonal use patterns of all alternatives. Additionally, the EIS should predict the number of vessel trips likely during construction and operation of the facility and evaluate risks from vessel strikes both from construction vessels and from maintenance vessels during operation of the wind energy plant.

The impact of noise and vibration during operation should be evaluated to determine likely impact on migratory routes or seasonal residence. For example, while Danish

studies found significant impacts on distribution of marine mammals during construction; they found little change during operation. However, as noted above, the range of peak hearing sensitivity is quite different for odontocetes (which are found in Denmark as well as the U.S. East Coast) and mysticetes which are not found in the vicinity of Danish projects. Mysticetes are likely to be more sensitive to the lower frequencies of noise generated during operation.

The EIS should also predict likely response of large cetaceans to encountering a multi-acre maze of structures in their migratory route. While a large number of structures in the middle of their habitat may pose no challenge to highly maneuverable small cetaceans and pinnipeds, this may not be the case for larger cetaceans. If habitat exclusion is possible as a result of the structures and/or noise of operation, then the EIS should evaluate energetic impacts and increase in risk of entanglement or vessel collision if they alter their migratory travel routes to avoid traversing a maze of structures.

Impacts on Bats

While it is true that the applicant's preferred alternative is several miles from the nearest shore, as are most of the alternatives, bats can and do cross the ocean during migratory and foraging bouts. The Massachusetts Division of Fish and Wildlife has indicated that it is highly likely that some red bats, which regularly fly over open water, traverse portions of Nantucket Sound and the south coast of Massachusetts. Researchers from Boston University have also documented this phenomenon for this and other species including hoary and silver-haired bats. Red bats are of particular concern, as their population has been impacted by wind energy plants elsewhere in their range, including the Mountaineer plant in West Virginia (Tuttle, 2004). The EIS should evaluate the possibility that turbines may even attract bats (Horn et al 2004). Potential impacts must be considered both from this project and as part of an analysis of cumulative impacts.

Avian Impacts

The greatest concern with any wind energy facility arises from its potential impacts on birds. In some instances the impacts have been at the population level (e.g., raptors at Altamont California) and impacts on ESA listed species in the project area must be given special consideration, as a few deaths of these fragile species will pose population-level risks.

Both direct impacts (e.g., collision) and indirect effects should be considered. Indirect effects include impacts resulting from displacing birds or degrading their habitat. While this concern has largely been considered in regard to terrestrial wind plants and their impacts on prairies and associated avian life, it is appropriate to consider it in the marine environment as well.

The risk to birds in this heavily used migratory corridor will be significantly different than that confronted by seasonal or year-round resident birds. Seasonally resident birds are placed at risk as they forage and/or traverse the area, but may adapt to the presence of

turbines. However, the birds that depend on, and will be displaced from, the area will be most disturbed during construction. The effects of this displacement should be considered. Additionally, the EIS should quantify collision risk for waterfowl and other seasonally resident birds taking off and landing or flying at lower altitudes than passerine migrants.

With regard to risk to migratory birds, Sarah E.S. Mabey (2004) identified several characteristics of migrants (particularly passerines) that may put them at risk from wind power developments, including the fact that the demands of migration make these birds physiologically vulnerable. Additionally, migration concentrates individuals and thus risk. Furthermore, population level impacts from collisions are "cryptic" (i.e., more difficult to quantify than they may be for non-migrating birds). The EIS should consider direct effects from collision with turbines but should also consider and energetic drain cause by displacement during seasonal movements or/and migration. Furthermore, collision risk will vary depending on visibility and weather conditions and should be estimated with regard to the proportion of time these conditions may predominate.

It is also important to understand the habitat use by particular species, as risk may be associated with the use to which a particular habitat is put (e.g., flight height requirements for migratory passerines versus shore birds in passage; and typical flight patterns during foraging versus transiting; etc.).

As is noted below in the section on the need for additional information, there is little information available on habitat use for many key species. The evaluation of risk should be predicated on an acknowledgement of the limitation of data available and should weigh the utility of various data sources. For example, information on distribution from aerial surveys is of different utility than that of vessel-based surveys. Thermal imaging provides different information than radar studies. Direct counts from shore based stations (e.g., Christmas bird counts) may not reflect use of the waters further offshore. The EIS should use as many sources of information as possible while acknowledging the limits of the available information in its assessment of relative risk to various species. Knowledge of the limits of the data helps inform the need for and rigor of mitigation measures. For example, significant certainty of risk of collision may not require measures such as an agreement to "turn off" turbines during higher use periods, whereas significant uncertainty may require the possibility that a measure such as this be included among the suite of mitigation measures.

With regard to collision risk to birds, it is important that models and projections be based on precautionary estimates. For example, the original Cape Wind DEIS used some of the lowest estimates actual avian mortality from terrestrial wind plants to predict potential mortality in Nantucket Sound. Mortality estimates can be imprecise, since searchers are often sporadic or infrequent and seasonal, and scavengers rapidly remove bodies. While we question the appropriateness of analogizing to mortality at terrestrial sites, should MMS decide to use avian data from terrestrial wind power facilities to inform its EIS, it should only consider research that corrects for these weaknesses.

The Army Corps' DEIS, however, not only used mortality estimates based on some of the least precautionary and rigorous studies of land-locked sites, but it failed to consider more applicable estimates from coastal plants such as that in the Wadden Sea in the Netherlands, which had higher mortality rates.

Potential Alternatives

The Notice of Intent provides four basic alternatives. They include the proposed action (a large wind farm in Nantucket Sound), phased installation and operations, the use of one of four proposed alternative locations or no action.

Any alternative considered, other than the no action alternate, requires a thorough evaluation of impacts. The previous DEIS for Cape Wind was deficient in its analysis of the impacts of any alternatives other than the proposed action alternative and did not include an alternative that would allow phased installation.

As noted both above and below, for most taxa there are significant gaps in information on the distribution and micro-habitat use of most of the alternative areas proposed. We believe that serious weight should be given to a phased approach if the MMS determines that it is reasonable to permit development of a wind energy facility, and the EIS finds that there is not sufficient evidence of potential for harm to marine wildlife (in particular bird life) from the construction and operation of a wind energy facility in the coastal waters south of New England. This alternative would allow for the MMS to require that the applicant continue collecting information on habitat use and the likely or actual impacts before a full-scale project (whose impacts are therefore more difficult to mitigate) goes on line.

Mitigating Measures

Mitigation measures would need to be designed and utilized in each of the phases of the project: construction, operation and de-commissioning.

During construction, adverse effects of noise need to be minimized. Consideration should be given to limiting construction to seasons less likely to disturb habitat and wildlife that depend on the area. Additional measures could include use of "bubble curtains" and other methods of masking noise, ramping of noise from pile driving, the use of observers who can halt construction if sensitive species are observed in the area, the use of acoustic monitoring to detect marine mammals in the area, and using construction methods and technologies that minimize the amount of noise being generated. Noise mitigation should involve a suite of measures. Reliance on visual observers alone to detect the presence of sensitive species is generally inadequate to prevent harm, as many of the most sensitive species (e.g., small cetaceans) are not likely to be detected visually or even acoustically.

In addition, during the construction phase, the project should use methods and technologies designed to minimize the generation of suspended sediments during cable

laying and construction. Vessel collision risk can be mitigated by using trained observers and slow transit speeds (i.e., less than 10 knots as is recommended by the NMFS to minimize risk to right whales).

Southern New England, with its sandy bottom and highly mobile coastal processes, is likely to be significantly impacted by the effect of stationary structures that affect the movement of sand. The EIS should include up-to-date measures to mitigate effects of scour and deposition that are likely to occur once structures have been erected. Scour and deposition have the potential to alter and degrade the suitability of habitat for benthic animals.

Mitigating avian collision risk during operation should be addressed in a number of ways. Studies have indicated that there are forms of lighting of structures that are more risk averse, and these should be used. There should be a requirement for ongoing monitoring of migrants and requirement that operations be halted in the event of significant mortality and/or during times when monitoring has revealed the potential for adverse affects on migrants or vulnerable coastal species. Offshore wind power plants present a particular challenge in quantifying mortality, since birds will fall into the sea rather than on dry land, making body counts virtually impossible. Garthe and Huppop(2004) have developed a model for scaling impacts in marine environments that may be of some use in this process.

As noted above, phased installation and operation of wind energy turbines will allow additional time to study effects and effective mitigation. In and of itself, this alternative provides some potential for mitigating harmful effects.

The EIS should also specify an enforceable and risk averse decommissioning plan in the event that the facility is no longer viable.

The Need for Additional Information

As previously noted, in these comments and in our various previous comments to the Army Corps of Engineers on the Cape Wind project, there are significant gaps in our understanding of the use of coastal habitats by vulnerable birds and marine mammals.

In March of 2006, the Massachusetts Audubon Society issued what it called a "challenge" to Cape Wind. In this statement, they identified a number of area in which significant information is lacking to determine effects of this project on avian species (MAS 2006). In particular, the Challenge identified the concern that there is insufficient information on a number of key bird species, specifically: the nighttime distribution and behavior of hundreds of thousands of long-tailed ducks in and around Horseshoe Shoal; movement of endangered terns and threatened plovers during the late summer to early fall migration; and the abundance and distribution of migrating songbirds crossing

Nantucket Sound. The Mass Audubon stated that meeting their "challenge" requires that these gaps are addressed with a finding of "no significant threat."

Effort should be made to undertake valid and robust research that may include the use of technologies previously eschewed by the applicant. These may include the use of radar on a more extensive basis to monitor migrants, the use of thermal imaging to identify types and classes of targets passing through the area, acoustic monitoring, and more extensive vessel and aerial surveys.

With regard to marine mammals, as previously stated, there is a need to better understand habitat use by migratory species such as harbor porpoise and by species of particular concerns such as right whales. We note that studies by Jakob Tougaard and the Danish government provide a good model of determining marine mammal distribution and impacts from installation of wind energy facilities. In this case, the government funded and conducted research prior to construction, during construction and during operation to check the post-construction impacts against known baseline data. The study employed a variety of methodologies (e.g., directed surveys, acoustic monitoring, telemetry work, etc.) This multi-dimensional, multi-media model of determining baseline distribution of birds and marine mammals would be helpful to this and similar projects. We note that a similar effort that has relied on opportunistic sightings, surveys, telemetry and acoustic monitoring is ongoing in the Stellwagen Bank National Marine Sanctuary.

Other Comments

We also wish to echo additional recommendations made by Massachusetts Audubon Society in its "challenge." These include reliance on adaptive management approaches, compensation for the use of public lands, establishment of a mitigation fund to conserve habitat, requiring enforceable decommissioning plans, and involving an independent panel to assist in analyzing and reviewing data collected during monitoring. This latter recommendation will assure that the controversy surrounding the collection, analysis and interpretation of data gathered by the proponents will be mitigated by the involvement of independent and credible outside parties.

The EIS must, by law, consider cumulative impacts. The HSUS would like to take this opportunity to caution the MMS that this must evaluate all cumulative impacts to a species whether from similar or dramatically different projects and wherever these impacts arise in the species range. For example, it is not valid to consider only impacts from other proposed wind energy projects or cable laying as was done in the original DEIS. As an example, for right whales the EIS must consider the impacts of this project added to those of other likely projects (one is being considered for an area just outside of their critical habitat in Georgia) and the risk they already face from entanglement and ship strikes.

We would also like to re-state our on-going plea for a programmatic analysis of offshore wind energy development. We believe the MMS is considering this type of approach in its scoping for regulations governing offshore alternative energy development consistent with its new responsibilities. A programmatic analysis would prevent the continual ad hoc approach to development and risk analysis. A programmatic approach should also identify areas of particularly vulnerable benthic and coastal features as well as areas that are critical to various life stages of marine wildlife, including migratory corridors, areas of seasonal high use, critical habitat and or breeding habitat. By mapping areas that may be particularly vulnerable, it will be possible for both MMS and developers to identify areas for development that are the most risk averse rather than proposing an area based solely on its energy generating capability and proximity to the grid.

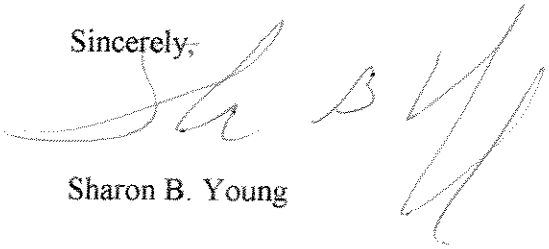
Conclusion

The HSUS applauds the MMS for requiring a new EIS for this project. We strongly support including as a primary alternative a phased approach to construction and operation. In addition, we sincerely hope that MMS will rely on data and studies that are more complete and up to date than in the original DEIS and that its analyses of habitat use by various species of marine wildlife is thorough and rigorous. The EIS should also be more forthright in its evaluation of data gaps and its analysis of risk than the DEIS undertaken for the Army Corps of Engineers. The HSUS also recommends that the MMS and the preparers of the EIS work closely with knowledgeable scientists and scientific organizations and that the EIS seriously address the critical comments made by state and federal agencies in their review of the previous DEIS. Without a rigorous evaluation of habitat use and risk to marine wildlife it is not possible to properly identify effective mitigation strategies.

While we support the establishment of alternative energy generating facilities, it is vital that these facilities be sited in the most risk averse locations and that they have a reliable plan for monitoring and mitigation of effects during construction, operation and decommissioning.

Thank you for the opportunity to comment on this Notice.

Sincerely,



Sharon B. Young

Marine Issues Field Director

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